

SECTION 11.31
CHANGEABLE MESSAGE SIGN
REMOTE CONTROLLED CHANGEABLE
MESSAGE SIGN

11.31.01--Description: Work under this item shall include furnishing and maintaining a trailer-mounted, Changeable Message Sign or Remote Controlled Changeable Message Sign, whichever is applicable, at the locations indicated on the plans or as directed by the Engineer.

11.31.02--Materials: The internally illuminated variable message sign shall consist of a magnetically operated matrix, LED, fiber optic, or lamp matrix message board; a diesel engine driven generator power supply; hardware for connection to a 110 volt power source; and a computer operated interface, all mounted on a towable, heavy duty trailer.

The sign shall have a three line message panel with 8 characters per line and a minimum horizontal dimension of 2920 mm. The letter height shall not be less than 460 mm. The sign shall rotate a complete 360 degrees atop the lift mechanism.

In the raised position, the bottom of the sign shall be at least 2.1 m above the roadway. The sign shall be clearly legible for a distance of 274 m.

The sign shall be controlled by an on-board computer. The sign shall automatically change to a preselected default message upon failure. That default message shall remain on display until the problem is corrected.

The Remote Controlled Changeable Message Sign unit shall be equipped with a security system to prevent unauthorized access. The security system shall allow access only through use of a code or password unique to that sign. If the proper code or password is not entered within 60 seconds of initial telephone contact, the call will be terminated. Remote control for the Remote Controlled Changeable Message Sign shall be by cellular telephone and touch tone modem decoder.

Each element in a magnetically operated matrix message board shall consist of a moveable flap operated by an electromagnet, which shall be positioned so that by changing polarity the flap is reversed. When closed, the black side shall be exposed. When opened, the colored section shall be exposed.

The lamp matrix, LED or fiber optic sign, shall be equipped with a top-mounted photocell for automatic sign dimming during nighttime use.

The sign shall be capable of storing 100 preprogrammed messages and be able to display any one of those messages upon call via the trailer mounted terminal for both the Changeable Message Sign and the Remote Controlled Changeable Message Sign or through the cellular telephone hookup for the Remote Controlled Changeable Message Sign.

11.31.03--Construction Methods: The Contractor shall furnish, place, operate, maintain and relocate the sign as required. When the sign is no longer required, it shall be removed and become the property of the Contractor. The cellular telephone required for the Remote Controlled Changeable Message Sign shall be provided to the Engineer for his use, and subsequently returned to the Contractor. When the sign is not in use, it shall either be turned off or turned from view.

Any signs that are missing, damaged, defaced or improperly functioning so that they are not effective, as determined by the Engineer and in accordance with the ATSSA guidelines contained in "Quality Standards for Work Zone Traffic Control Devices," shall be replaced by the Contractor at no cost to the State.

11.31.04--Method of Measurement: This work will be measured for payment for each "Changeable Message Sign" or "Remote Controlled Changeable Message Sign," whichever applies, furnished and installed, for the number of calendar days that the sign is in place and in operation, measured to the nearest day. When a

sign is in operation for less than a day, such a period of time shall be considered to be a full day regardless of actual time in operation.

11.31.05--Basis of Payment: This work will be paid for at the Contract unit price per day for each "Changeable Message Sign" or "Remote Controlled Changeable Message Sign," which price shall include placing, maintaining, relocating and removing the sign and its appurtenances and all material, labor, tools and equipment incidental thereto. Additionally, for the "Remote Controlled Changeable Message Sign," the cellular telephone service and telephone charges shall be included.

Pay Item	Pay Unit
Changeable Message Sign	EA./Day
Remote Controlled Changeable Message Sign	EA./Day